

Jack Moody

REPORT  
ON  
REHABILITATION AND MODERNIZATION  
OF  
SAN FRANCISCO'S WAR MEMORIAL CULTURAL CENTER

By  
Public Structures, Inc.  
Wurster, Bernardi and Emmons

Skidmore, Owings & Merrill  
Architects

1 February 1965

DOCUMENTS DEPT.

JAN 23 2002

SAN FRANCISCO  
PUBLIC LIBRARY

PREPARED FOR  
BOARD OF TRUSTEES, WAR MEMORIAL OF SAN FRANCISCO  
Opera House - Veterans' Building - Art Museum

5/S



*San Francisco Public Library*

GOVERNMENT INFORMATION CENTER  
SAN FRANCISCO PUBLIC LIBRARY

REFERENCE BOOK

*Not to be taken from the Library*

JAN 23 2002

SAN FRANCISCO PUBLIC LIBRARY



3 1223 05971 7166

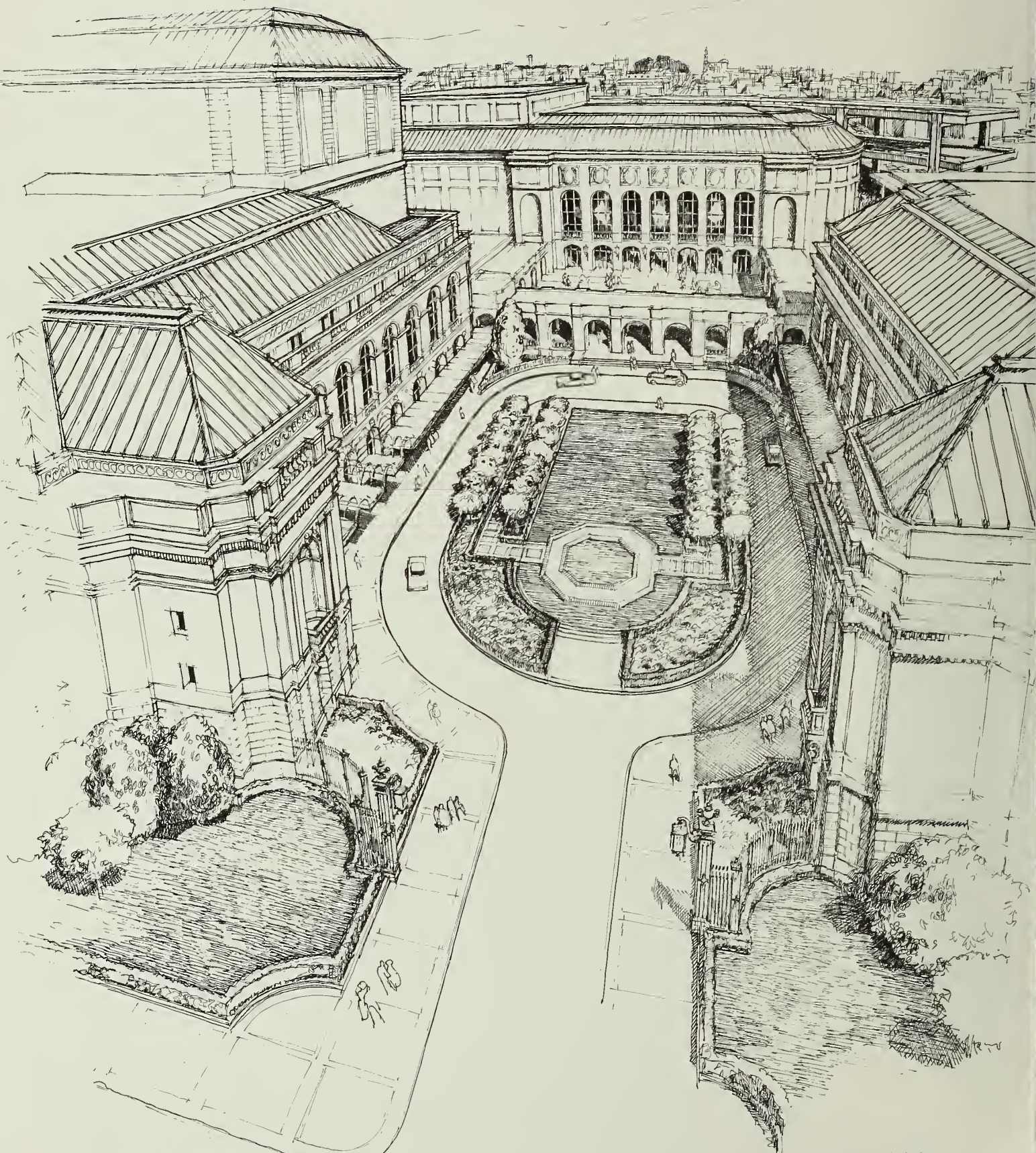


Digitized by the Internet Archive  
in 2014

<https://archive.org/details/reportonrehabili1196publ>







PROPOSED WAR MEMORIAL CULTURAL CENTER



REPORT  
ON  
REHABILITATION AND MODERNIZATION  
OF  
SAN FRANCISCO'S WAR MEMORIAL CULTURAL CENTER

By  
Public Structures, Inc.  
Wurster, Bernardi and Emmons  
Skidmore, Owings & Merrill  
Architects

1 February 1965

PREPARED FOR  
BOARD OF TRUSTEES, WAR MEMORIAL OF SAN FRANCISCO  
Opera House - Veterans Building - Art Museum

Executive Staff

Edward Sharkey  
Managing Director  
E. Lawrence George  
Executive Secretary

Trustees

Wilson Meyer, President  
Harold E. Hubbard, Vice Pres.  
Philip S. Boone  
Fred Campagnoli  
Richard P. Cooley  
George T. Davis  
Prentis C. Hale  
Gregory A. Harrison  
Sam K. Harrison  
Samuel D. Sayad  
Ralph J. A. Stern





## INDEX

### I. SUMMARY

Assignment  
Survey Method  
Findings and Recommendation

### II. DESIGN AND USE OF OPERA HOUSE AND VETERANS BUILDING

### III. CONDITION OF OPERA HOUSE AND VETERANS BUILDING

### IV. NEED FOR OPERA HOUSE EXPANSION

### V. NEED FOR 2200-SEAT HALL FOR THE PERFORMING ARTS

### VI. PARKING REQUIREMENTS

### VII. PROPOSED NEW MUSICAL ARTS BUILDING

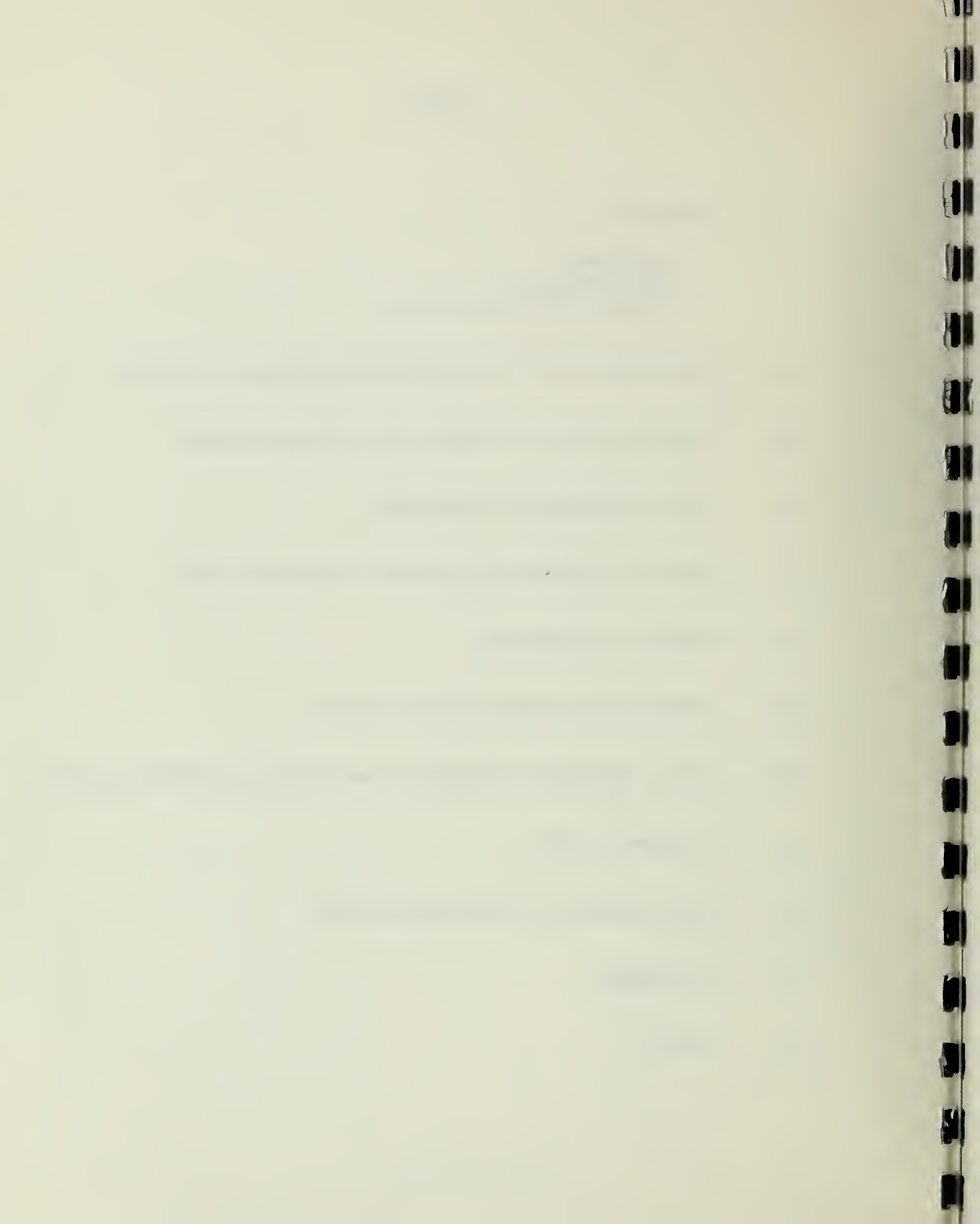
### VIII. SITE OF PROPOSED EXPANSION OF WAR MEMORIAL CULTURAL CENTER

### IX. ESTIMATE OF COST

### X. CONCLUSIONS AND RECOMMENDATIONS

### XI. APPENDICES

### XII. PLATES



## LIST OF APPENDICES AND PLATES

### Frontispiece

Proposed War Memorial Cultural Center.

## XI. APPENDICES

### Appendix A

War Memorial Opera House and Veterans Building Rehabilitation and Modernization.

### Appendix B

San Francisco's War Memorial Cultural Center  
Preliminary Estimate of Cost - 1 February 1965

## XII. PLATES

### Plate 1.

Site Allocation Plan - 1958 Civic Center Development Plan

### Plate 2.

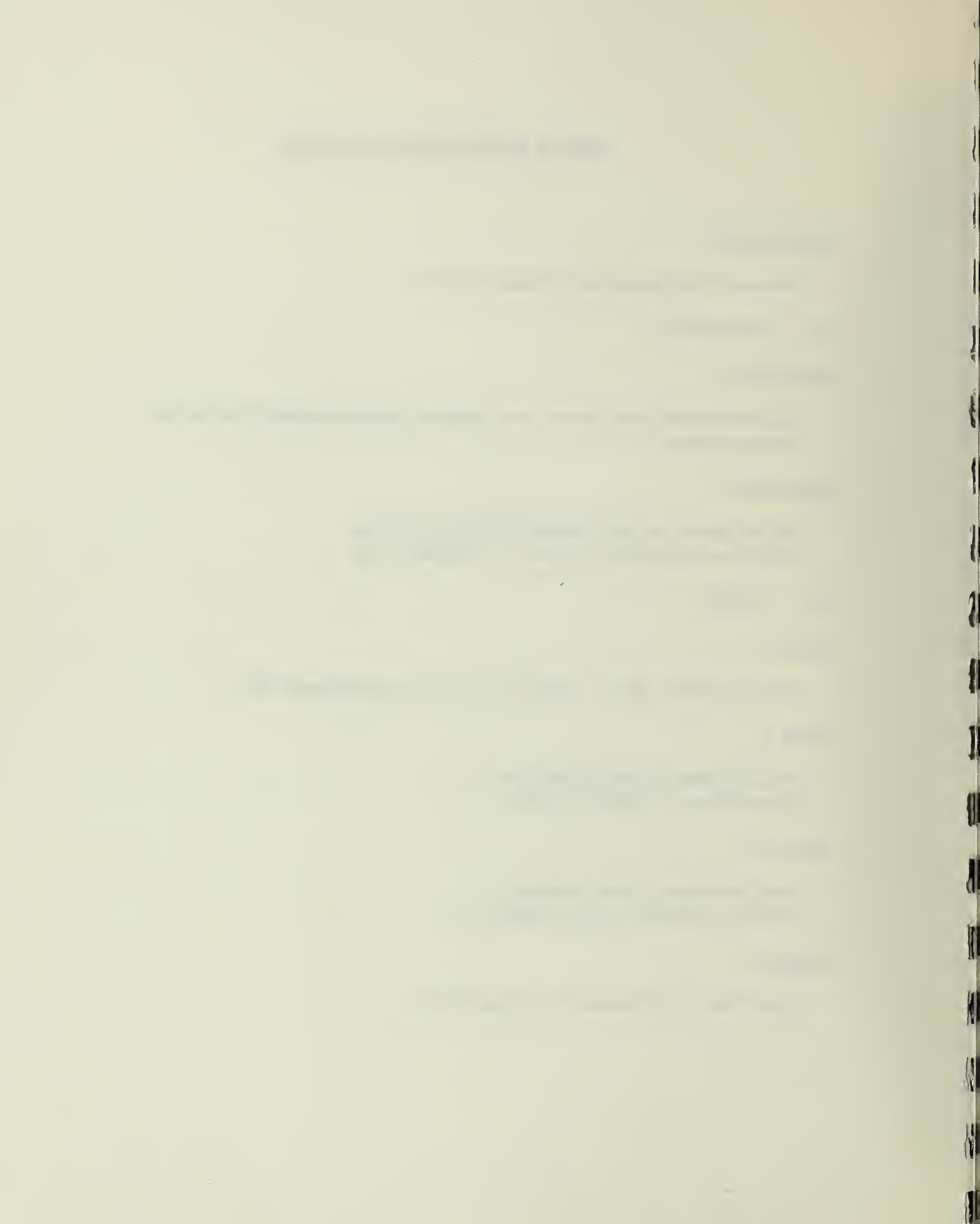
War Memorial of San Francisco  
Opera House - First Floor Plan

### Plate 3.

War Memorial of San Francisco  
Veterans Building - First Floor Plan

### Plate 4.

Site Plan - War Memorial Cultural Center.



## I. SUMMARY

### Assignment

On October 1, 1964, the Board of Trustees of the San Francisco War Memorial Opera and Veterans Building retained the services of Skidmore, Owings & Merrill and Wurster, Bernardi and Emmons, Architects, to make a survey of these two buildings. The purpose of this survey was, in consultation with the Trustees and representatives of the organizations regularly occupying and using these buildings and the various City departments concerned, to recommend and estimate the cost of a program of rehabilitation and modernization of these two buildings.

The survey was also directed towards a study of the occupancy and utilization of the two buildings for the purposes for which they were designed, as they had developed over the years, and to study and make recommendations for various schemes for expansion and modernization of the facilities serving these uses and upon the future relationship between the two buildings.

The architects' findings, conclusions and recommendations as a result of their survey are contained in this report. These recommendations include a program of future development as well as modernization of the facilities presently contained in these two buildings. This program and the suggestions for its implementation are designed to give San Francisco an adequate and up-to-date Cultural Center for the performing and visual arts, comparable to any in the country and at a reasonable cost. This program provides not only the most modern facilities for the performing arts, such as the opera, symphony, ballet and theatrical groups, but for the San Francisco Museum of Art and the Veterans organizations as well.

### Survey Method

The Opera House and Veterans Building were inspected by the architects' heating ventilating and air conditioning, electrical and structural engineers and their Acoustical Consultants, after consultation with the Trustees' Building Committee the Manager and Operating Engineer of the buildings and representatives of the Department of Public Works. Past deficiencies and deferred maintenance items reported by those persons concerned with the buildings were investigated and the feasibility and cost of repairs or modernization estimated.

The architects held interviews with representatives of the organizations regularly occupying or using the buildings for the purposes for which they had been designed on the trustee, director and management levels. These organizations included:





San Francisco Veterans  
San Francisco Museum of Art  
San Francisco Opera  
San Francisco Symphony  
San Francisco Ballet

Other musical and theatrical groups, both civic and commercial, were also contacted for their requirements for facilities and use.

In addition, interviews were held with several of San Francisco's eminent art and music critics, at which their opinion concerning the merits and deficiencies of the concert and opera facilities were obtained.

These interviews were designed not only to reveal present inadequacies and deficiencies in the two buildings, but also to obtain these organizations' present requirements, both as to space and function, in order to plan and estimate any necessary remodeling or expansion of the buildings to bring them into conformity with their occupants' present-day needs.

From these interviews, definite space requirements for present and future use of the San Francisco Museum of Art, Opera and Symphony were obtained. These, on a minimum basis, exceed their present space within the two buildings and in the case of the Opera, cannot be accommodated within the Opera House.

Although not contemplated within the original scope of their services, when the space requirements of the principal organizations obviously exceeded the space in the Opera House and in the case of the Art Museum their present quarters in the Veterans Building, it became necessary to make certain preliminary architectural and site studies in order that the architects could incorporate their recommendations for their solution and the cost thereof in this report. The development of additional space had been forecast by the architects and incorporated in the Civic Center Development Plan prepared by them for the City in 1958. However, due to subsequent developments in and around the Civic Center area and the increase in these space requirements over the intervening years, this aspect of the problem had to be restudied and the San Francisco Redevelopment Agency and various City Departments consulted.

#### Findings and Recommendation

As a result of the investigations and studies conducted during the course of their survey, the architects found that the Veterans' Building and the Opera House needed extensive repairs, alterations and modernization of mechanical, stage, lighting and seating equipment. They found that the Veterans' area in the Veterans Building needed to be brought up to date for the veterans' present use of the space.



In addition, they found, in the case of the Opera House, a need for additional space far beyond the capacity of the present building to accommodate for essential administrative, production and rehearsal activities. Similarly, the amount of space required by the San Francisco Museum of Art, and the Veterans' organizations, in the Veterans' Building and adequate public access to it require extensive alterations to that building for the benefit of both occupants. They found as well a pressing and growing need for a 2200-seat hall for ballet, chamber music and recital performances and that these and the production and rehearsal facilities lacking in the Opera House could be combined functionally and economically in an essential new Musical Arts Building to complete the present War Memorial Cultural Center established by the construction of the present two buildings of San Francisco's War Memorial.

The architects found that the sums required to carry out this essential program would seem to be best financed by an immediate General Obligation Bond Issue and they recommend that the War Memorial Trustees request the Board of Supervisors to place such a bond issue on the November 1965 ballot and seek the support of all public spirited citizens to assure its passage.

The more detailed findings leading to these conclusions will be found in the body of this report and the specific recommendation at the end of the report. The supporting data is in the Appendices.





## II. DESIGN AND USE OF THE OPERA HOUSE AND VETERANS BUILDING

The War Memorial Opera House and Veterans Building are major buildings in San Francisco's justly famous Civic Center which were constructed in the early 1930's. They were designed by Arthur Brown, Jr., the Opera House in collaboration with G. Albert Landsburgh, in conformity with John Galen Howard's plan for the Civic Center. They are two balancing symmetrical buildings subordinated to and flanking the City Hall across Van Ness Avenue. They are beautifully designed in the French Renaissance style of the Civic Center and meticulously and harmoniously detailed on the interior and exterior. They are joined together by the carriage court on Franklin Street and gilded wrought iron gates facing Van Ness Avenue.

The interior of the Opera House is particularly fine and is reminiscent of European houses and surpassed New York's older Metropolitan Opera House in beauty of exterior, lobbies, foyers and promenades. The hall itself has a dignity and beauty that exceeds that of contemporary halls and which it would be difficult to match today. The Architect has confined the design of the hall to simple lines, a high ceiling and a majestic proscenium.

The hall is designed for opera and symphony concerts, although used for other purposes. It seats 3252 persons in the orchestra, boxes, dress circle and balcony. The sight lines are good and the acoustics have been reasonably satisfactory for opera. The acoustics have been less successful for symphony, and in recent years a demountable acoustical shell has been designed for the stage by Heinrich Keilholz, the eminent German acoustical consultant, in collaboration with Skidmore, Owings & Merrill.

The main hall of the Opera House and the public spaces providing circulation to it are quite satisfactory, and dear to the hearts of San Franciscans and music lovers from other cities who know it. However, the space behind the proscenium is grossly inadequate for the directing personnel and performers and the multiple activities necessary before, during and after a performance. This working area is not only inadequate as to space, but also hopelessly obsolete as to stage mechanical, electrical, sound, rigging and lighting equipment by modern-day standards, as 35 years of stage equipment development have passed since the Opera House was designed.

The Veterans Building, equally beautiful on the exterior because almost identical to the Opera House, is less satisfactory on the interior. This is due in part to the double occupancy for which it was designed. As a War Memorial, it was designed to house the headquarters and activities of City and State veterans' groups. At the same time, it was designed to house the San Francisco Museum of Art. The first three floors of the building, which center around an 1100-seat auditorium with a balcony and a small stage, are occupied by the Veterans, and



the top floor is occupied by the Art Museum. The central feature of the museum is a seventy-foot octagonal Statuary Court around which the picture galleries are grouped.

On the lower three floors and in the basement, meeting rooms and offices are arranged around three sides of the Veterans Auditorium, the foyer of which is the Trophy Gallery, entered through the lobby on Van Ness Avenue, and over which is a two-story library and lounge surrounded by a loggia.

The principal public entrance to the building is into the Veterans' part of the building, whereas the entrance to the San Francisco Museum of Art is on McAllister Street around the corner from the main Van Ness Avenue entrance. The public attracted by the Museum enters through this side door and then ascends to the fourth floor of the building in a small antiquated passenger elevator. When this public is large, as it is at previews and openings of exhibits, or when Symphony luncheons or lectures are given, this entrance and the present elevators are inadequate.

The Veterans Auditorium, which is designed as a multi-purpose room with a mechanically-operated floor which can either be stepped with temporary seats as an auditorium or kept level to serve as a dance floor, is used as an auditorium for small concerts, school graduations, lectures and similar events and only occasionally for dances, perhaps because its architectural effect is pretentious but gloomy. The Rotunda in the fourth floor Museum gets such constant use as an assembly room that it is not used for its original purpose of a Statuary Court.

The Museum has also had to convert the original library into administrative offices and a portion of the North Gallery into a Members' Room.

In contrast to the Opera House, the working areas of which are critically overcrowded and vibrant with activity, and the public areas of which are filled with life and color during the opera and symphony seasons and during other performances between these seasons, the Veterans' Building, except for the Art Museum, seems relatively commodious for its present intensity of use by the Veterans. If modernized and redecorated, it would be used more intensively by the Veterans and others. At the same time, the entrance to the Art Museum should be revised to accommodate conveniently and expeditiously the public which it serves with appropriate identification and graciousness commensurate with its importance to the cultural life of San Francisco.

These two buildings may justly be considered as San Francisco's War Memorial Cultural Center.

(See Plates 1, 2 and 3.)





### III. CONDITION OF OPERA HOUSE AND VETERANS BUILDING

Although the City of San Francisco, realizing the beauty and civic importance of these two buildings, has kept up their exterior appearance over the years by sand-blasting the stone work and painting the wrought iron work, the City has not been able to combat obsolescence of the mechanical plant nor add modern improvements required for efficient and successful use of the premises. Nor has the City, during a period when population growth in the Bay Area and consequent expansion of civic services have imposed a severe strain on the tax dollar, been able to appropriate sufficient money for essential repairs and capital improvements.

The result is that quite apart from the need for additional space in the Opera House for behind-the-stage activities and for remodeling of the Veterans' Building for their expanded activities and handling of the public of the Museum of Art, the repair and replacement of obsolescence and the modernization of the physical plant of these two buildings to serve the purposes for which they are used now would require the expenditure of a sum greater than seems practical to finance from ad valorem taxes.

Unfortunately, the most serious of the deficiencies and the most important items of obsolescence are at the same time the most expensive to correct and yet the most essential to the proper functioning of the two buildings to properly serve their important cultural and memorial uses: the elevators must be replaced and modernized, the Opera House and Veterans Auditorium seating replaced and these halls air conditioned and the plumbing and heating systems rehabilitated.

The stage area of the Opera House and to a lesser extent of the Veterans Auditorium must be completely modernized, including, in the Opera House, the stage rigging, curtains and draperies and motors, new cycloramas, the stage flooring and raising mechanism, a new stage lighting system with switchboard, dimmers and control consoles, sound, paging and closed circuit TV systems, enlargement of the orchestra pit and a new prompter's box, house lighting and possible enlargement of the boxes. There is the need also in the Opera House and included in the rehabilitation costs for much-needed additional box seating, Opera Museum, Green Room, Musical Library and expanded dressing rooms and showers for the opera supernumeraries.

Besides the extensive remodeling of the Art Museum's space in the Veterans Building and the appropriate remodeling of the Veterans' portion of their building to fulfill their present-day requirements for administration, meetings and social and recreational activities, there are items in both buildings which architecturally can be characterized as deferred maintenance, including the repair of sidewalks, walls, balconies, roofs and skylights of both buildings.

A more detailed description and estimates of cost of these items of repair, replacement and remodeling of the Opera House and the Veterans Building prepared by the Architects following their inspections and investigations will be found in the Appendix of this report.

Allocations for modernization of the areas are tentative and will be subject to modification in the next phase of the Architectural planning after determination by the Board of Trustees.





#### IV. NEED FOR OPERA HOUSE EXPANSION

Fortunately for San Francisco, her pre-eminence as a center of the Musical Arts has not been dependent in the past on the adequacy or modernity of the Opera House. It has been due rather to the vitality, enthusiasm and devotion of its artists, musicians and directors and the support of the citizens of the community.

Even a cursory inspection of the areas of the Opera House where those responsible for the perfection of the performances of the opera, symphony and ballet must prepare, rehearse and produce the final performances reveals the physical handicaps of space and facilities and equipment under which they have achieved the perfection of the finished performance before the audience. In spite of these physical handicaps, the energetic and talented staffs of our Opera and Symphony have made San Francisco the production center for these arts to serve other cities on the west coast.

The deficiencies behind the scenes, which exist in spite of the suitability and beauty of the front of the house, and the tradition of excellence of the performances of the opera, symphony and ballet, become progressively hampering and discouraging to the performers as other cities acquire more modern and efficient facilities.

Some of these deficiencies are due to obsolescence and deferred or under maintenance; others are due to lack of incorporation of modern improvements in mechanical and stage equipment and lighting as they developed. In this report, these have been investigated and their costs included in the rehabilitation of the Opera House within the confines of the present building.

However, were all of these improvements to be carried out, under any scheme of financing for the rehabilitation, the physical limitations of the existing Opera House and the space and physical facilities which it provides for the production staffs and other backstage personnel and for rehearsals of the Opera, Symphony and Ballet would still be grossly inadequate.

The lack of auxiliary rehearsal space often necessitates use of the Opera House itself for this purpose, and this makes it unavailable for rental with a consequent loss of revenue at these times. At other times, when the hall and stage are not available, the opera company has had to rent auditoriums and even less suitable improvised space for rehearsals. The room in the Opera House now being used for chorus rehearsals is too small to accommodate the modern chorus with its additional personnel. Opera principals and other performers are obliged to use their dressing rooms as rehearsal rooms, which is artistically and acoustically inappropriate.

The San Francisco Symphony and Opera orchestras have some 75 to 100 musicians to rehearse. While final rehearsals of the full orchestra can only be held in the orchestra pit of the Opera House, this, as previously mentioned, is too small



even for the present complement of the orchestra. Space for preliminary simultaneous rehearsals of various size groups is seriously lacking. What is required is a mockup rehearsal stage of the full dimensions of the Opera House stage, as well as two additional blocking stages for the opera, a chorus rehearsal room, solo rehearsal rooms for the principals, a ballet studio with mirrors and rails for rehearsals and a hall for orchestra rehearsals.

Dressing rooms for principals and dressing rooms and locker rooms, toilets and showers for chorus and extras are grossly inadequate. The latter cannot remove their makeup and these deficiencies in dressing accommodations are becoming of concern to the Union. There is also no canteen where the stage hands and performers can eat. Rooms originally designed as dressing rooms have had to be commandeered as offices for the administration and direction of the opera and symphony and ballet.

Stage and art directors, designers, wig, makeup, costume and office personnel are now working for the most part in the former dressing rooms, in halls and closets and space for office and reproduction machines is almost nonexistent. In addition to office space, space is needed for conference rooms.

There is inadequate space for shops in the Opera House. The present carpenter shop is too small for large stage props and its third floor location renders it almost inaccessible. Blacksmith for metal work, electrical, wig, sewing and paint shops are also needed.

There is inadequate storage for scenery, properties, costumes and wigs, and the present loading facilities, directly onto the rear stage, are too restricted and too disruptive. As many as 80 van loads of scenery can be involved in a season; therefore, four unloading docks should be provided on the same level as the main stage and the mockup stage, but with access to and on the same level as storage and shops.

These facilities, while all functional workrooms, are essential to the efficient utilization of the performance and public areas of the Opera House. Obviously, to realize their full utilitarian potentialities, they must be adjacent to the Opera House and ideally directly connected to it. The experience of operas in other cities which do not have such auxiliary space close by indicates this. Covent Garden in London has an auxiliary building located several miles away, a distance which its director says poses serious difficulties for their opera's operation.





## V. NEED FOR 2200-SEAT HALL FOR THE PERFORMING ARTS

The Opera House seats 3250 persons in the orchestra, grand tier, boxes and balcony. The hall is primarily designed for operas. Two-thirds of the seats are too distant from the stage for the intimate visual contact with the dancers necessary for the ballet or for other performances which do not, as the ballet does not, draw an audience which fills the Opera House.

The auditorium in the Veterans' Building which seats 1100 persons, is too small for the ballet, is too long and narrow to provide intimate audience contact with the stage, and the stage area itself is too small and by modern standards its equipment too small and primitive and its dressing room facilities inadequate for the ballet.

At the present time, therefore, the Opera House is used for the performances of the opera, the symphony and the San Francisco Ballet, all of which occur during the seasons in the fall, winter and early spring. There is a need and the policy has already been adopted to lengthen these individual seasons and to develop the spring opera. In several years the symphony season will be 34 weeks. The continuing trend will crowd the scheduled use of the Opera House to the point that the ballet, which does not need and does not fill the full capacity of the Opera House, will be forced out.

Since the mockup or rehearsal stage which must be constructed to serve the Opera House will have the space, the stage equipment, the stage lighting and the supporting facilities for the performers and since the need exists for a medium-sized hall for the ballet, recitals and chamber music, it is recommended that the new building be designed to provide a 2200-seat hall. This can be done with a minimum of additional expense, the mockup stage being designed to service both purposes: rehearsals of the opera and the ballet and by enlarging the building and with a minimum of duplication, a separate performing stage for the new 2200-seat hall.

This will satisfy San Francisco's need for a hall for performances for an audience of from 2000 to 2200 persons, a size halfway between the 3250-seat Opera House and the 1100-seat Veterans Auditorium. It will also provide in the new cultural center that which is now lacking: a home for the uniquely successful San Francisco Ballet and an important recital and chamber music hall. This new building can, of course, also house a repertory theater.



## VI. PARKING REQUIREMENTS

The Civic Center Development Plan, prepared by the War Memorial Trustees' architects in 1958 for the City, which projected the requirements for governmental and non-governmental facilities in the Civic Center area through 1973, contains an off-street parking program phased to be carried out progressively parallel with the construction of the facilities upon which the parking demand is based. This parking program was formulated on the basis of a traffic and parking study of the area which examined existing and projected demands and capacities.

Eventually the General Development Plan, when carried out, will contain five parking garages and two parking lots, and additional parking areas within government buildings for "official parking", when the Civic Center area reaches its ultimate development. When this program is completed, there will be 5700 spaces available to the public, including the now completed Civic Center Garage under the north side of the Plaza.

The nearest and most pertinent parking in the Development Plan to serve the cultural activities taking place in the Opera House and Veterans Building is a multi-story 1200-car garage located directly south of the Opera House and connected to it by a pedestrian tunnel on the former Commercial High School athletic field across Grove Street. This entire block is now devoted to surface parking. The other is somewhat smaller garage to be located directly across McAllister Street north of the Veterans Building.

Since the public attending the opera, symphony and ballet, and dances and concerts in the Veterans Building, dinners at the opening of the opera and previews of exhibits in the Museum of Art attend these functions in black tie or full evening dress, the parking serving them must be close by and have undercover access to these buildings, as does the Union Square Garage to the St. Francis Hotel and the garage under the Masonic Auditorium on Nob Hill.

The proposed new 2200-seat hall was not contemplated when the Civic Center Development Plan was made. It is, therefore, recommended that parking of up to 700 cars be incorporated in the proposed expansion to serve this additional public at night and to serve the musicians and performers using it for rehearsals during the day. This parking would also serve the veterans and museum events in the rehabilitated Veterans Building as well. A passenger unloading platform at the garage entrance can be designed which will take the public up to the court level and from there under cover into each of the three buildings which will then make up a new Cultural Center for San Francisco.

The proposed parking garages in the Civic Center Development Plan, north and south of this new San Francisco Cultural Center, will be needed too, of course, and should be built as soon as their financing can be arranged. However, the parking



in the new building will be critically needed when that building is finished, both to serve it and the other two War Memorial buildings, and it should therefore be included in the financing of that building.





## VII. PROPOSED NEW MUSICAL ARTS BUILDING

The need for expansion of the back of the stage facilities and services of the Opera House and the need for a new 2200-seat hall for ballet, repertory theater, recitals and chamber music, all of which are essential if the War Memorial Cultural Center is to contain the modern facilities necessary for San Francisco to maintain its long-standing leadership as the vital production center in the west, require a third building to supplement the Opera House and Veterans' Building. This building might be called the Musical Arts Building until a more appropriate name is chosen.

The proposed new building should contain the following facilities:

### A. For Opera

1. Separate mockup stage, same size as Opera House stage, with 90-foot high fly gallery.
2. Two blocking stages (52 x 46 feet).
3. Orchestra rehearsal hall with storage, lockers and toilets.
4. Ballet rehearsal stage (same as blocking stage but with mirrors, rails, etc.) with dressing rooms and showers.
5. Chorus rehearsal room for 85 singers, conductor and piano with a separate room or rooms for conductors.
6. A second chorus room for 45 people and piano. Both #5 and #6 with lockers and toilets.
7. Three ensemble rooms for 10 or more people each.
8. Twelve coaching rooms for 3 persons and piano, each.
9. Lounges for men and women (2).
10. Canteen.
11. Dressing rooms:
  - a. Ballet - for 20 men and for 30 women.
  - b. Supernumeraries - 150 people.
  - c. Boys' chorus - 30 people.
  - d. All of the above to have toilets and showers.



12. Offices:

- a. Conference room.
- b. Mr. Adler and two secretaries.
- c. One office each for Adler's assistant and coordinator.
- d. Technical assistant.
- e. 3 stage directors and 2 assistants - 5 offices.
- f. Publicity office for two people and one temporary assistant.
- g. Rehearsal office for two persons and reception.
- h. Rooms for six conductors with toilets and lockers.
- i. All of the above to have file space and storage areas.
- j. General toilet facilities.

13. Music library - in addition to working library in the Opera House.

14. Shops:

- a. Costumes - drying room and work rooms.
- b. Carpenter's shop (30' minimum height).
- c. Paint shop and drying area.
- d. Plastic shop with ventilation.
- e. Machine and blacksmith shop.
- f. Electrical shop.
- g. Properties shop.
- h. Scenery sewing room.
- i. All of the above to have lockers, storage and toilets.





15. Storage and receiving for road shows and San Francisco Opera.

Mockup stage and receiving should be on the same level as the Opera House stage which necessitates a Franklin Street underpass.

B. For Symphony

1. Offices:
  - a. Conference Room for 70 people.
  - b. Three accounting rooms.
  - c. Three executive offices.
  - d. Room for mailing, etc. sound deadened.
  - e. Storage and toilet facilities for all of the above.
2. Music Library - this could be combined with the Opera library.
3. Instrument Storage - for smaller instruments which are not stored in the Opera House itself.
4. Dressing rooms with lockers, toilets and showers.
5. Rehearsal rooms - could be combined with those for Opera.
6. Practice rooms - these are primarily for "warm-up".

C. For Public

1. 2200-seat hall for ballet performances, repertory theater, incidental concerts and other appropriate musical events.
2. Necessary lobbies, foyers, ticket offices, toilets, etc.
3. Restaurant for the public.
4. Parking for up to 700 cars, with vertical transportation and under-cover surface communication to the hall and to the Opera House and Veterans Building. Access to and egress from the garage should allow drivers to deposit and pick up passengers at Opera House audience arrival platforms.

THE UNIVERSITY OF CHICAGO  
LIBRARY

1000 S. MICHIGAN AVE.  
CHICAGO, ILL. 60607

TEL: 773-936-5000  
FAX: 773-936-5001

WWW.CHICAGO.EDU  
WWW.LIBRARY.CHICAGO.EDU

1000 S. MICHIGAN AVE.  
CHICAGO, ILL. 60607

TEL: 773-936-5000  
FAX: 773-936-5001

WWW.CHICAGO.EDU  
WWW.LIBRARY.CHICAGO.EDU

1000 S. MICHIGAN AVE.  
CHICAGO, ILL. 60607

TEL: 773-936-5000  
FAX: 773-936-5001

WWW.CHICAGO.EDU  
WWW.LIBRARY.CHICAGO.EDU

1000 S. MICHIGAN AVE.  
CHICAGO, ILL. 60607

TEL: 773-936-5000  
FAX: 773-936-5001

WWW.CHICAGO.EDU  
WWW.LIBRARY.CHICAGO.EDU

5. Revision of the present vehicular arrival court between the Opera House and Veterans Building to serve all three buildings.
6. Memorial forecourt which can also serve as an outdoor statuary court of the San Francisco Museum of Art.

(See Frontispiece.)



## VIII. SITE OF PROPOSED EXPANSION OF THE WAR MEMORIAL CULTURAL CENTER

San Francisco is fortunate in having land for the proposed expansion of the Cultural Center ideally located immediately behind the Opera House and Veterans Building to which the new building could be directly connected by bridging the underpass so that the three buildings can function together as a unified Cultural Center. This land is marked for development by the San Francisco Redevelopment Agency in the immediate future. Both the Redevelopment Agency and its director have stated in writing that they regard this land as set aside for this purpose.

The Site Allocation Plan of the Civic Center Development Plan shows the block bounded by Franklin, Grove, Gough and Fulton Streets east of the central freeway allocated to an Opera Auxiliary Building with contiguous surface parking. This block was chosen because it is directly behind the stage of the Opera House and can, as it must, have a direct connection to it over Franklin Street.

The block immediately north of this block between Fulton and McAllister Streets along Franklin Street, is also in The San Francisco Redevelopment Agency's Western Addition Project Area A-2. The only new building on these two blocks is the well-designed, two-story building of the California State Bar Association, the entrance to which is at 601 McAllister Street at the corner of Franklin. The service entrance to this building is at the east end of Ash Street, a dead-end alley leading off of Gough Street.

The Central Freeway, a 50-foot high, two-level structure, slashes diagonally across these two blocks from southwest to northeast, from the intersection of Grove and Gough Streets to behind the California Bar Association property. The freeway structure thus forms a physical barrier and therefore a positive boundary of the Civic Center Development area on the west. It also cuts off abruptly, at Gough Street, the former vista of the west portico of the City Hall as seen through the court between the Opera House and Veterans Building as one approached the Civic Center from the west along Fulton Street. This formidable physical and visual barrier of the Central Freeway isolates the property in these two blocks fronting on Franklin Street and make it logical and desirable to develop them in a manner which is harmonious in use and design to form a western terminus of the symmetrical Civic Center and backdrop to the beautiful court between the Opera House and Veterans Building in such a way as to mask the ponderous two-story freeway structure.

The approved Land Use Plan of the Western Addition Project Area A-2 redevelopment plan designates these two blocks as commercial or public use of intermediate density.

The Redevelopment Plan also indicates diagonal streets cutting across the corners of Gough and Grove and Gough and McAllister Streets, the latter under, and on the right-of-way of, the freeway. The purpose of these diagonal streets is to





utilize the full traffic potential of Fulton Street west of Gough for traffic headed for or returning from the downtown area. The Redevelopment Plan, nevertheless, shows Fulton Street continuing eastward from Gough to its present terminus at Franklin Street, which, with the two diagonal streets diverting the traffic from this block of Fulton, serves little purpose. We therefore recommend that the right-of-way of Fulton Street through this block be incorporated in the land offered for redevelopment along Franklin Street, especially since the new diagonal diversionary street at the southwest corner of this block considerably reduced the original site allocated in the Civic Center Development Plan to the proposed new building.

The traffic on Franklin Street is one way traveling north from Market Street. Upon acquisition of the property and demolition of the existing older buildings on these two blocks, there will be no other buildings requiring access or service from Franklin Street since the California Bar Association Building which would remain has access from McAllister Street and service from the alley behind it. It is therefore highly desirable to have Franklin Street underpass the new building and connect it and form an entrance court to it which will in fact be an extension of the court between the Veterans Building and the Opera House between Grove and McAllister Streets.

This will unify as one site, uninterrupted by through traffic, the land occupied by the proposed new building, the Opera House and the Veterans Memorial Building. It makes it possible to design a proper and fitting western termination of the Civic Center, masking the freeway structure and allowing these three cultural buildings to be related to each other aesthetically and functionally as a new and expanded San Francisco Cultural Center.

It is therefore the recommendation of the Architects that the land along Franklin Street from Grove Street north to the south line of the California State Bar Association property and east of the Central Freeway right-of-way, and the proposed southwest diagonal between Gough and Grove Streets, including the right-of-way of Fulton Street, be designated and acquired as the site of the proposed new Musical Arts Building and that this site be further enlarged and connected to the land now occupied by the two San Francisco War Memorial Buildings by the land over the proposed underpass on Franklin Street between Grove and McAllister Streets.

In addition, the 45-foot wide strip of City-owned property behind the Opera House and Veterans Building on the east side of Franklin Street will be incorporated in the development.

This site, eminently suitable, in the proper location with respect to these two buildings, will total 3-1/2 acres subdivided as follows:



Portion of Grove, Franklin block	1.55 acres
Portion of Franklin, McAllister block	.50 acres
Fulton Street right-of-way, Gough to Franklin	.40 acres
Over proposed Franklin Street underpass	.40 acres
City land east of Franklin	<u>.65 acres</u>
Total	3.50 acres

The almost an acre of land in the right-of-way of Fulton Street and over Franklin Street might, with the concurrence of the City, be deeded, in the case of the former, and the air rights granted, in the case of the latter parcel of land, at no cost other than the diversion of the utilities in these two streets, the cost of which is included in the construction estimate. It has been assumed in the estimate of cost of the land that this can and will be done.

(See Plates 1 and 4)





IX. ESTIMATE OF COST

It is estimated that the cost of the entire project of rehabilitating and modernizing the present Veterans Memorial Building and the construction of the essential expansion of the facilities lacking in the Opera House in the proposed new Musical Arts Building would require a General Obligation Bond Issue. These estimated costs include land and building, contingencies, fees, administration and financing costs and allowance for rise in construction costs as well as the necessary allowance for overtime on the rehabilitation work due to the fact that the work in the Opera House and Veterans Building must be done while the buildings are in operation.

The General Obligation Bond Issue required would be in the amount of \$29,000,000, made up as follows:

BOND ISSUE ESTIMATE SUMMARY

A. Rehabilitation and Modernization

1. Veterans Memorial Building		
a. Veterans Area	\$2,100,000	
b. Art Museum Area	<u>2,000,000</u>	\$4,100,000
2. Opera House		
Symphony and Opera	<u>\$5,800,000</u>	<u>\$5,800,000</u>
		\$9,900,000

B. New Construction - Musical Arts Building

1. Opera, Symphony, Ballet administration, production center and 2200-seat hall for public performances of ballet, incidental concerts, recitals and repertory groups.		\$8,875,000
2. 700-car garage		6,100,000
3. Franklin Street Underpass		<u>1,500,000</u>
Subtotal		<u>\$16,475,000</u>
Total Construction		\$26,375,000

C. Land		<u>2,625,000</u>
Estimated Bond Issue Required		\$29,000,000



## X. CONCLUSIONS AND RECOMMENDATIONS

Based upon their conclusions reached on the basis of their survey, investigations and studies, the architects make the following recommendations to the Trustees of the San Francisco War Memorial.

1. The Veterans Memorial Building and Opera House should be rehabilitated and modernized in accordance with the detailed recommendations contained in Appendix A of this report.
2. In addition, the facilities of the backstage area of the Opera House must be expanded beyond the confines of the present building.
3. There is a growing need for a 2200-seat Ballet and Concert Hall with adequate staff and public inside parking.
4. The space needed for the rehearsal and production activities of the Opera and Symphony and the 2200-seat Ballet and Concert Hall should be located in a new building connected at stage level to the Opera House for movement of scenery and with under-cover circulation for the public between this new Musical Arts building with its garage and the Opera House and Veterans Memorial Building. This will require an underpass to be constructed for Franklin Street between Grove and McAllister Streets.
5. The proposed Musical Arts building should be located on the site in the Western Addition Redevelopment Project Area A-2 east of the central free-way between Gough Street and the California State Bar Association property at the corner of McAllister Street, directly across Franklin Street, west of the Opera House and the Veterans Memorial Building.
6. The total estimated project cost of the rehabilitation, modernization and expansion of the War Memorial Cultural Center will require a bond issue of \$29,000,000.
7. The sums required for the rehabilitation and modernization of the Veterans Building, when added to those necessary for essential physical expansion of the production and performance activities of the Opera, Symphony and Ballet, are such that a general obligation bond issue, reflected in the above estimates of cost, seems essential to finance the project.
8. The rehabilitation and modernization of the Veterans Memorial Building and the new Musical Arts building should be carried out simultaneously as soon as possible if San Francisco is to maintain its present position of leadership in the musical, performing and fine arts, and if the San Francisco War Memorial is to continue to remain a cultural center as well as the home of San Francisco's veterans' organizations.



## XI. APPENDICES

Appendix A

Appendix B





## APPENDIX "A"

### War Memorial Opera House and Veterans' Building Rehabilitation and Modernization

#### Deficiencies, Recommendations and Outline Specifications

It is recommended that repairs, replacement, and new construction be accomplished at least to the extent outlined in the following:

#### A. Veterans' Building

##### 1) Roof repair.

Problem: The original installation of lead-coated, standing seam copper was made without regard for thermal expansion in certain areas, notably ridges, valleys, gutters, and cap flashings.

Recommendation: Replace all deficient areas with new work, properly installed and provided with expansion joints.

##### 2) Glass skylights.

Problem: Glazing has repeatedly leaked at metal to glass joints; condensate gutters and leaders are rusted.

Recommendation: Remove and replace all glass panels and metal frames as required, re-installation to be done in accordance with modern practice. Replace metal condensate system with non-corrosive material.

##### 3) Loggia off Green Room.

Problem: Extensive cracks in the quarry tile deck and stains on the plaster ceiling in the entrance vestibule below indicate that the membrane is leaking.

Recommendation: Replace existing membrane with new and re-lay or replace quarry tile. Replace flashings as required.

##### 4) Vibration caused by motors, fans, and ductwork.

Problem: For some time complaints have been made regarding fan noise throughout the Auditorium, particularly the stage area.



Recommendation: Investigation has revealed that fans and motors throughout the building are mounted on cork which is ineffectual in damping vibration and that this vibration is being transmitted to a number of areas in the form of noise. Further, it was found that ducts, while isolated from the fans with canvas bellows, nevertheless are imparting vibrations to walls into which many of the ducts are solidly embedded. Finally, in the case of the Auditorium stage, air is exhausted to the outside directly above the smoke doors opening from the top of the fly gallery. It is possible that some of the noise observed below originates here.

It is recommended that noise elimination be done progressively:

- a) Install spring isolators and inertia pads under all motors and fans, including the convertors over Elevators #1 and #2.
- b) Isolate ductwork from walls in fan room areas with non-hardening mastic.
- c) Treat ducts to plenum over Auditorium acoustically.
- d) Redesign exhaust ductwork above stage in order to eliminate air noise.

It may not be necessary to do all items in order to reduce noise to an acceptable level.

5) Cast stone in main floor entrance areas.

Problem: Shrinkage, vibration, earthquakes, and building settlement have caused opening of mortar joints between the cast stone veneer blocks.

Recommendation: Rake all joints with power tools to depths of about 1/2" and repoint with mortar.

6) Plaster cracks, corridors, and stairs.

Problem: Plaster cracks have developed in these areas, to some extent on the walls but particularly in the vaulted ceilings.

Recommendation: The nature of the observed cracks is considered to be what might be called normal for buildings of this age. Fill cracks and repaint.





7) Acoustic treatment - Room 134.

Problem: Surfaces in this room are all hard finish with the result that reverberation tends to make speech unintelligible.

Recommendation: Apply 1/2" or 3/4" mineral acoustic tile on 1" x 3" wood stripping on the north, south, and west walls from the ceiling down to door height. Install a suspended hard surface reflector approximately 8'-0" wider and longer than the present conference table at a height of 12'-0" above the floor.

8) Basement recreation rooms.

Problem: There are two recreation rooms existing which are suitable for dances and other assemblies. One, at the east, was originally a meeting room; the other, on the south, has been remodeled from two band practice rooms. Ventilation in both areas is not satisfactory; lighting is adequate but not attractive; floors are resilient tile which is not completely suitable for dancing and both areas should be redecorated.

Recommendation: Modify existing ventilating systems, add new booster coils in existing ductwork (including controls and connections to present steam piping; relocate return grilles with replacement as required.) - Install new acoustic ceilings, replace finish floors with wood, provide new lighting with dimmer control and redecorate walls.

9) Rehabilitation of Elevators.

a) Art Museum sidewalk elevator (#6).

Problem: Necessity for door opening in excess of platform size has created a potentially dangerous condition which requires removal of a steel beam in order to open all four sidewalk doors. Further, the overhang beyond the elevator platform of some objects makes handling unsafe.

Recommendation: Install a new elevator with platform of size to suit doors; provide two doors which open normally and safely.

b) Elevator #4 (Museum freight).

General overhaul, but not complete rehabilitation.



c) Elevator #3 (Museum passenger) and #1 and #2 (Veterans' passenger).

Problem: Controls are antiquated; doors are worn; cabs do not have doors.

Recommendation: Modernize controls, type to suit use; provide new cabs and doors.

10) Acoustic treatment and lighting - Art Museum Rotunda.

Problem: The floor and wall materials in this room are such that sound reverberation is extremely annoying. Present artificial lighting consists of four bare light bulbs.

Recommendation: That the plan proposed to the Department of Public Works in 1958 be carried out in order to effect proper lighting and acoustic treatment.

11) Redesign of Art Museum, receiving and storage space; re-allocation of offices and teaching areas.

Problem: At present approximately 45,000 square feet of total space are devoted to the use of the museum. Of this 9,600 square feet are in the basement and are primarily used for receiving, carpentry, and storage.

Some 19,400 square feet are utilized as exhibition areas with the remaining 15,000 square feet being used for offices, educational and other utilitarian purposes.

Artificial lighting in the galleries is extremely poor; acoustics are bad; the nature of the wall structure creates a constant source of dust.

Humidity control and air cooling are non-existent. Much of the total so-called gallery area is made up of corridors which are not suitable for exhibition space.

Office space is inadequate, poorly arranged, and inefficient.

Probably the least effective area is in the basement. It is, roughly, 50% of the size considered by modern museum standards to be necessary for proper functioning.

Spatial relationships in the basement area are such that proper



flow of materials is not possible; hence operations are slow and there is constant danger to the works of art which are handled. The spaces are sprinklered rather than protected with a non-damaging smoke detection system. Constant security control does not exist.

Recommendation: The entire museum operation should be studied carefully and in detail to determine the best possible utilization of space. However, the following changes are minimal:

- a) Remove virtually all walls on the fourth floor with the exceptions of the Rotunda and stairs.
- b) Install new walls to divide the area into four galleries with restrooms, kitchen, and book store.
- c) Install new ceilings throughout with the ability to provide both natural and artificial light.
- d) Install new floor finish throughout.
- e) Provide air conditioning, electronic smoke detection and closed TV security systems in the galleries.
- f) Revise administrative offices, curatorial offices, educational facilities, staff lounge, board room, and mailing rooms.
- g) Shops and storage - provide shop and storage space in the basement properly designed to serve as an integrated series of functioning areas. Include a vault for painting storage and electronic security and fire detection system.
- h) Redesign ground floor entrance. Add new elevator for passengers.

12) Auditorium.

Problem: Discussion with a number of authorities of varied interests and our own observations have led to the following conclusions:

- a) Seating on the orchestra floor is uncomfortable, antiquated, and unsightly. Continuance of the use of the movable feature of the floor prevents the installation of modern, permanent seating.





It has been found that the cost of handling the present seating and attendant items is becoming prohibitive so that use of the floor in the level position seems unwarranted.

- b) Ventilation is poor and what there is creates unpleasant drafts which are distracting and uncomfortable.
- c) Present decor is depressing and somewhat overpowering.
- d) House lighting, while perhaps adequate is not aesthetically inspiring.
- e) Modernization of stage lighting and dimmer control is essential.
- f) Re-rigging and re-draping of the stage is required.

Recommendation: The complete redesign of the Auditorium and modernization of the stage facilities to produce a completely satisfactory permanent Auditorium for 1,050 seat capacity including:

- a) Redesign entire interior of audience area to improve acoustics and appearance using new finish materials.
- b) Install permanent seats in orchestra; replace seats in balcony. This means abandonment of the movable feature of the orchestra floor. Total number of seats: 1,050.
- c) Re-curtain stage.
- d) Replace all stage rigging as required.
- e) Install new main switchboard; replace dimmer board with modern dimmers and control; provide a complete new complement of stage lights.
- f) Revise ventilating system to improve air circulation and eliminate drafts.
- g) Design and install new house lighting.
- h) Install new carpet in lobbies, stairs, and on orchestra and balcony aisles.



B. Items which are common to both the Opera House and Veterans' Building.

1) Air filters in ventilating systems.

Problem: Present filters do not properly fit frames and are expensive to replace. As a result some filters are blown out by air pressure with attendant infiltration of dust; cost of replacement in the past has prolonged use so that clogged filters reduce ventilation efficiency.

Recommendation: Install replaceable media filters which have easily replaced pads.

2) Settlement of sidewalks and central court.

Problem: Certain portions of the public sidewalks and approaches to the buildings, notably at the northeast and southeast corner of the War Memorial complex, as well as part of the Opera House taxi ramp and the central court, have settled, creating uneven surfaces and cracks.

It is not possible to determine exactly the cause of this without removal of the surface treatment and examination of the sub-surface material. However, soil borings made at the time of construction indicate that the material is fine sand and it is believed that settlement has resulted from consolidation resulting from water seepage and vibration.

Recommendation: Remove the affected portions of walks and other surface coverings, including the sub-surface material to a depth to be determined, and replace with engineered fill. Reinstall the surface finish. At the time of removal, detailed inspection and a more accurate evaluation of the problem can be made.

C. Opera House.

1) Roof repair.

The problem and recommended treatment is identical with that of the Veterans' Building as discussed under A. 1) above.

2) Cast stone in main floor entrance and lobby.

The problem and recommendations are the same as those described under Veterans' Building, A. 5) above.





3) Plaster throughout the corridors, stairwells, and promenades.

Problem: Extensive and unsightly cracks have appeared throughout these areas on walls in particular. The cause appears to be a combination of shrinkage, settlement, and minor earthquakes.

Recommendation: Fill major cracks; apply canvas and two coats of paint.

4) Wind screens - taxi and carriage entrances.

Problem: Wind and rain protection is needed on the north and south sides of the building to alleviate present conditions which make entry and exit to and from the building from vehicles unpleasant.

Recommendation: Construct glass screens in metal frames between the doorways extending vertically to a height of about ten feet and horizontally from the building to points near the edges of the walks in such a way that they will not interfere with traffic.

5) Complete screen between lobby and foyer, main floor.

Problem: The presence of open spaces above the existing metal framed glass and doors in the five arched spaces between columns which occur between the lobby and the foyer permit the passage of drafts from the outside to the foyer.

Recommendation: Install glass in frames to match existing in such a way that the lobby is completely sealed from the foyer.

6) Acoustic treatment of refreshment areas.

Problem:

- a) The noise level caused by conversation and other sources, particularly during program intermissions is excessive due, primarily, to the lack of soft surfaces in the following refreshment areas: Lower Foyer Bar ; Mezzanine Bar; Third Floor Bar.
- b) In addition, noise emanating from the Lower Foyer Bar passes through the plaster ceiling, into the under-orchestra air plenum and through the orchestra air supply openings. The noise is disturbing to patrons during intermissions.



Recommendation:

- a) Treat the ceilings of the three affected areas with acoustic materials, such as 3/4" mineral tile, applied either directly or on wood battens.
- b) Install a 1" thick plaster barrier wall and 2" glass fiber blanket above the ceiling over the Lower Foyer Bar up to the ground floor concrete slab. Add 1" thick plaster to the hollow tile wall between the bar and the under-orchestra plenum.

7) Revisions to liquor and soft drink concessions.

Problem:

- a) Lower Foyer Bar. With the present arrangement this bar is always overcrowded, service is inefficient and facilities for table service are inadequate. Discussion with the concessionaire indicates that the position of certain columns with respect to the bar and the tendency of patrons to attempt to obtain service toward the center bar rather than near the ends, constitutes an ineffective operation. See also Item C. 8) below.
- b) Mezzanine and Third Floor Bars. Both of these facilities are inadequate in size and efficiency.
- c) Present soft drink and candy concessions are unsightly make-shift areas which, if improved and supplemented, could actually decrease the load upon and improve the revenue from the liquor bars.

Recommendation:

- a) In the Lower Foyer Bar, construct a new, straight bar to the west of and backed by the portion which now separates the access corridor to the rest rooms from the present table area. The existing bar to be removed and the space in the "alcove" to be used for table service.
- b) Construct new lengthened bars to replace those on the Mezzanine and Third floors. In redesigning all bars the space from front to back to be substantially reduced to between five and six feet for increased efficiency in this particular operation.



c) Soft drink and candy concessions.

- (1) The Lower Foyer counter to be designed to blend aesthetically with the surrounding area, enclosed from floor to ceiling and made capable of being locked.
- (2) Convert the two centrally located check rooms (one on the north; one on the south) into soft drink and candy bars. This to be done by installing counters and overhead rolling doors.
- (3) Convert the two check rooms adjacent to the present bar on the third floor into soft drink booths as in (2) above.

It should be noted that none of the check rooms mentioned are used to capacity and, in fact, some are not used at all.

8) Restaurant.

**Problem:** In at least three of the many interviews with interested persons held during this survey, mention was made of the desirability of restaurant service in the house. The need for this is two fold:

- a) Service for the public.
- b) Service for the "behind scenes" personnel.

**Recommendation:** Food service for non-public use will be provided in the proposed Musical Arts Building. It is obvious that no space of sufficient size for exclusive use as a restaurant can be found in the Opera House itself.

The recommendation below, made after consultation with the present concessionaire, is dependent upon execution of the changes in the Lower Foyer Bar suggested under Item 7) above and involves dual use of tables in the "alcove" thus created.

Proper and efficient service of prepared food before performances to be made by the construction of a pantry in the under-orchestra plenum immediately behind the present bar. Such construction to be done in a manner which would insure complete sound isolation of the pantry from the orchestra seating.





9) Rehabilitate existing heating controls.

Problem: In general the original system is in excellent condition. Certain specific items should be replaced; some areas should be rezoned because partition changes have altered the original intent of operation.

Recommendation: Replace air compressors and tanks; replace certain thermostats; re-zone certain areas, providing thermostats and reheat coils as required.

10) Rehabilitation of elevators.

a) Passenger elevators #1 and #2.

Problem: Controls are antiquated and costly to maintain; cabs and doors are old; doors operate on air rather than modern electric master controls.

Recommendation: Replace controls with Selective Collective System which can also be operated by attendants. Replace doors and controls. Refinish cab interiors. An overtime allowance should be made to reduce construction time to a minimum.

b) Freight Elevator (North Stage elevator #4).

Problem: This elevator is one of two which serve the stage both for passengers and freight. At present, the controls are difficult to maintain; the motor is two speed AC which results in "jerky" operation; the cab and doors should be replaced. If the north elevator is made more serviceable it will relieve some of the load which is presently placed on the south one, particularly during performances.

Recommendation: Modernize this elevator by replacing the cab, doors, motor, and controls.

c) Passenger Elevator #3.

This elevator is adequate in capacity in its present state but is to be generally overhauled.

11) Provide "Green Room".

Problem: There is, at present, no adequate room or area where conductors or other principals can receive selected patrons after performances.



Recommendation: On the main floor off the south promenade there is a room, originally intended as a concession booth, which is now used by the Board of Trustees. Redecorate this room to provide an 11 by 27-foot Green Room.

12) Opera Museum.

It has been suggested that an Opera Museum be established and that for the present, at least, the Mezzanine South Promenade be used for this purpose.

We concur with this use and recommend that displays be included in the cost of capital improvements and the Museum be exploited as a tourist attraction.

13) Music Library

Problem: The existing music library is no longer suitable or adequate. Both the Symphony and the Opera Associations continually increase the quantity of music to be handled and stored. Actually, the library in a sense, could be considered as requiring two basic spaces. One might be termed "dead storage"; the other a working library.

Recommendation: Space for the principal or "dead storage" library with work space as needed can be incorporated in the Musical Arts Building.

It is anticipated that construction of this new building will relieve the backstage load in the Opera House with particular respect to the dressing rooms to the extent that they may be used for other purposes.

It is proposed that a proper working library with storage and sorting space be constructed in the area in correct relation to the orchestra playing location when this freeing up of space occurs. Such a library would primarily be designed to handle music for the current season, the larger library in the new building being basically for the permanent collection.

14) Instrument storage.

Problem: Storage space for large instruments is required in an area near the playing space and of such size that "live storage" of these instruments can be maintained for a week or preferably a season. Additional space for smaller instruments is desirable but would be in the Musical Arts Building.





Recommendation: That space in the Opera House be made available for instrument "live storage" under the same conditions as described above in Item 13.

15) Dressing rooms and showers.

Problem: Dressing room space and shower facilities are hopelessly insufficient for any production which requires the use of choral and supernumerary groups. At present, there are only four showers for women and two for men.

Recommendation: Until the Musical Arts Building is constructed, at which time the load on the Opera House will be relieved, it is possible to provide space for two (2) new showers for women and four (4) for men.

It is anticipated that the present space in the Opera House can be re-allocated to suit the needs of principals, musicians, and other persons who require close proximity to the stage. This, of course, cannot be accomplished until the new building is constructed, also the temporary use of dressing rooms in the Veterans' Building should be considered.

16) Re-rig fly gallery.

Problem: Much of the stage rigging has not been replaced since it was installed some 30 years ago. Such items as brakes, sheaves, head blocks and even cables and ropes are in this category. The existing pin rail control is at stage level. This does not permit fly-men to view the stage action area.

Recommendation: The entire installation should be replaced. The pin rail control should be raised to a level which provides a direct view of the stage. Since it is not possible at this time to determine exactly how much of the equipment must be renewed, allowance for complete replacement has been made in the cost estimates.

17) Re-curtain stage.

Problem: This problem is two-fold. The contour and other curtains have served for the life of the building and have deteriorated beyond repair. The contour curtain motors do not permit proper variation in curtain speed, a condition which detracts from the tempo effect of many productions. The other problem involves

THE UNIVERSITY OF CHICAGO  
DEPARTMENT OF THE HISTORY OF ARTS  
AND ARCHITECTURE

THE HISTORY OF ARTS AND ARCHITECTURE

THE HISTORY OF ARTS AND ARCHITECTURE  
IS A JOURNAL OF THE HISTORY OF ARTS  
AND ARCHITECTURE  
PUBLISHED BY THE UNIVERSITY OF CHICAGO  
DEPARTMENT OF THE HISTORY OF ARTS  
AND ARCHITECTURE

THE HISTORY OF ARTS AND ARCHITECTURE  
IS A JOURNAL OF THE HISTORY OF ARTS  
AND ARCHITECTURE  
PUBLISHED BY THE UNIVERSITY OF CHICAGO  
DEPARTMENT OF THE HISTORY OF ARTS  
AND ARCHITECTURE

THE HISTORY OF ARTS AND ARCHITECTURE  
IS A JOURNAL OF THE HISTORY OF ARTS  
AND ARCHITECTURE  
PUBLISHED BY THE UNIVERSITY OF CHICAGO  
DEPARTMENT OF THE HISTORY OF ARTS  
AND ARCHITECTURE

THE HISTORY OF ARTS AND ARCHITECTURE

THE HISTORY OF ARTS AND ARCHITECTURE  
IS A JOURNAL OF THE HISTORY OF ARTS  
AND ARCHITECTURE  
PUBLISHED BY THE UNIVERSITY OF CHICAGO  
DEPARTMENT OF THE HISTORY OF ARTS  
AND ARCHITECTURE

THE HISTORY OF ARTS AND ARCHITECTURE  
IS A JOURNAL OF THE HISTORY OF ARTS  
AND ARCHITECTURE  
PUBLISHED BY THE UNIVERSITY OF CHICAGO  
DEPARTMENT OF THE HISTORY OF ARTS  
AND ARCHITECTURE

THE HISTORY OF ARTS AND ARCHITECTURE

THE HISTORY OF ARTS AND ARCHITECTURE  
IS A JOURNAL OF THE HISTORY OF ARTS  
AND ARCHITECTURE  
PUBLISHED BY THE UNIVERSITY OF CHICAGO  
DEPARTMENT OF THE HISTORY OF ARTS  
AND ARCHITECTURE

the original design position of several items. The space occupied by the contour curtain is approximately three feet up-down stage. This curtain is presently upstage from the fire curtain.

The first light bridge and tormentor towers occupy another three to four-feet, again upstage. This combination results in the loss of six to eight feet of extreme downstage play area which, while for Opera may have less importance, is vital to Ballet and Light Musical productions.

Recommendation:

- a) Install new stage curtains. In so doing, move the contour curtain and valance into the proscenium arch, i. e., downstage from the fire curtain. Provide modern motors, at least ten, and new controls for this curtain to give maximum flexibility.
- b) Install a new motorized call curtain immediately upstage from the fire curtain.
- c) Redesign the first light bridge and tormentors, using modern equipment.
- d) Add approximately six new lines. It may be possible to add additional lines farther upstage if the borders are replaced.

The above recommendations will add several feet of usable downstage critical space.

18) Stage lighting and control.

Problem: Stage lighting equipment and its control have advanced technically since 1933 to such an extent that the original installation, still in use, seems almost makeshift and the rental equipment available for use in San Francisco to supplement it is very little better.

- a) Inefficiency of overhead lighting results in the necessity of setting the teaser so low that in many productions the balcony audience cannot see upstage action.

Paradoxically, the present overhead stage lights could be replaced by lights of smaller physical size and increased output, thereby gaining space for additional rigging sets.



- b) The position of the first light bridge prevents lighting of the extreme and critical downstage area. Refer to Item 17 above.
- c) Front lighting is limited to the inadequate and too flat original provision in the front of the Grand Tier rail. At times this is supplemented by temporary, exposed equipment placed on the organ loft railings.
- d) The existing dimmer and control consists of three components - the control on stage, the reactors and the hydraulic system for operating the stage control. All of these are 32 years old.

The on-stage control is some 25 feet in length, will hold 15 presets and requires considerable ingenuity as well as agility to operate. No direct light control from any other part of the House is possible.

- e) The deficiency in lighting and control is such that some Opera performances, among them Wagner's Ring Series, cannot be undertaken in the Opera House because of them.

#### Recommendation:

- a) Replace the main electric switchboard.
- b) Install a modern type dimmer with sufficient capacity to not only accommodate present needs, but also those of a careful projection of future requirements. In so doing, install matching controls, pre-set and patch panels on stage. Install duplicate controls in the projection booth so that adjustments in lighting can be made directly at a proper distance.
- c) Re-wire and re-equip the entire stage with up-to-date lighting facilities.
- d) Add front lighting in the upper balcony rail and in the organ loft grilles. The latter will be replaced with a design more in scale with the adjacent architecture.
- e) Add additional lighting above the oval ceiling at the east edge.
- f) Replace the down lights above the proscenium with equipment which can be masked from the view of the orchestra audience.







- g) All of the above must be carefully designed with the professional assistance of one or more stage lighting consultants working in association with the technical personnel of the Opera, Ballet, and Symphony Associations and the architects and engineers.

19) Replace cycloramas.

Problem: The "cycs" require replacement because of age and obsolescence. Both cycs are of canvas which is acoustically transparent. This not only permits the passage of some street noise but also results in loss of sound from the stage to the up-stage wings.

Recommendation: Replace the "cyc with fabric. Replace the other "cyc" with acoustically opaque material. Motorize both cycloramas.

20) House lighting.

Problem: The house lighting in general is keyed too low and should be increased, either within the existing fixtures or with new fixtures.

Recommendation: Design study from technical and artistic points of view to the end that the rehabilitated Opera House will have proper lighting consistent with its purpose and its fine architecture.

21) Stage traps and bridges

Problem: Discussions have been had with the technical director concerning the utility of the existing stage floor construction. From upstage to about center there is a series of so-called traps which are divisions of understage floor designed in such a way that each one or all can be raised to produce one or more elevated platforms.

From center to downstage there is a series of four bridges, each approximately four feet wide by 50 feet long, separated by beams which are 10", more or less, wide. Hinged platforms are attached to the downstage edge of each. These bridges may be raised or lowered and, by means of the hinged platforms, caused to form a sloping stage.

The entire system was evidently designed to be useful for many



types of productions but, in fact, at least for Opera, has proven to present such lack of versatility that it is seldom used.

One reason is that the traps can be raised only, not depressed. Another is that the bridges are separated by the beams and, hence, cut the downstage area into "ribbons".

Recommendation: Greater flexibility should be achieved by removal of the beams between the bridges and redesigning the entire system, including a sliding floor which could be in place when the bridges are down. With this system, particularly if it were extended over the entire playing area, scenes could be set and lowered so that as many as three scenes could be played in quick succession.

There are numerous other uses to which such an arrangement could be put.

22) Closed Circuit T. V.

Problem: At present one camera is targeted on the conductor; the other on the stage from the projection booth. One, or at most, two monitors are used on stage. The latter does not provide sufficient coverage, particularly in productions requiring certain types of choral and ballet groups.

Recommendation: Install plug-in connections for two additional cameras in the balcony area. Provide four monitors each side in the stage wings with the ability to use one or more upstage, center.

Install monitors in the major dressing rooms in the Opera House.

Install monitors in the proposed Musical Arts Building in the lounges, dressing rooms, offices, and other key locations.

23) Air conditioning.

Problem: Under certain conditions, which are relatively infrequent, the temperature of the outside air is such that with the present ventilating system any incidental cooling effect is not satisfactory. This is of importance primarily in the audience areas of the house and is, of course, less satisfactory in the balconies than below.



Recommendation: Chillers for cooling in both the Opera House and Art Museum must be placed in the Musical Arts Building because there is no suitable space elsewhere. Cooling in the Opera House will be limited to those areas which can be supplied with a minimum of damage to existing finish. No extensive demolition and replacement of material in order to gain installation space for ducts is contemplated.

24) Orchestra pit and prompter's box.

Problem: By far, the most mentioned single item of deficiency which has come to our attention is the orchestra pit. A few of the problems are: it will scarcely hold seventy musicians, one hundred being required at times; the shape is wrong, being too narrow at the ends; the strings are weak and the brass is strong; there is one level only which is at all acoustically acceptable - if the orchestra is lowered it becomes stronger, if raised, weaker.

While not part of the pit problem, the hood over the prompter's box is raised above stage level and should be lowered.

Recommendation: Incorporate all or part of the movable portion of the extreme front of the orchestra floor into the orchestra pit. This would delete 38 seats if one row is involved; 76 if two rows are removed.

These losses could be recovered if new seating is installed. (See Item 25 below.)

As part of the construction work in modifying the pit, the prompter's box can be dropped.

25) Replace seating.

Problem: Upholstery is badly worn and uncomfortable; orchestra seats are unnecessarily bulky; soft backs are thought to detract from acoustics. Additional revenue from increased seating is badly needed.

Recommendation: Replace all seats.

No capacity increase can be gained in any area except the orchestra. The present spacing of orchestra seats is 36". By using 33-1/2" a total gain in capacity of 176 seats can be had which will be reduced to 100 net if the orchestra pit is enlarged.







In order to respace the orchestra seats it will be necessary to relocate the air supply openings known as "mushrooms" and to modify the wood, stepped floor.

Wiring for aisle lights will have to be replaced in order to accommodate row respacing.

26) Additional boxes and modification to Grand Tier.

While no particular problem as such is noted we see the possibility of adding one tier of boxes over the present A through E and V through Z boxes and of filling the north and south ends of the Grand Tier level to bring the front rail out to match the line of the present box level.

If this proves to be structurally and economically sound after detailed structural and cost studies beyond the scope of this survey, it would add ten boxes and an undetermined number of Grand Tier seats.

A conservative estimate of the annual gross revenue which could be derived from ten boxes, assuming six seats each, is between \$35,000 and \$40,000.

27) Symphony Association Offices.

Problem: At present the space occupied by this Association is such that efficient functioning is impossible.

Recommendation: The only solution which is at all practical is the inclusion of suitable office space in the Musical Arts Building. If it is desired to maintain the association of the public and a physical tie between the Symphony offices and the Opera House then, certainly, a portion of the front offices may remain in the present quarters.

28) Intercommunication system.

Problem: Present equipment comprises essentially a one-way system which depends upon disturbing audibility for signals. It is not possible to turn off speakers when desired without complete loss of contact with the central source.

Recommendation: Install a two-way system throughout the backstage area and in offices. This would extend to the Musical Arts Building as required.



Such a system would have other than sound signals so that persons on stage could be alerted as well as those in areas where broadcast sound can be used.

29) Painting.

It is recommended that the audience area and office and dressing room spaces be painted. In so doing the proscenium can be darkened considerably in order to attain a more suitable setting for the stage and to eliminate undesirable reflected light.



APPENDIX B

SAN FRANCISCO'S WAR MEMORIAL CULTURAL CENTER  
PRELIMINARY ESTIMATE OF COST      1 February 1965

A. Rehabilitation and Modernization

1. Veterans Building

Section I - Architectural

a. Copper Roofing Repair	\$ 31,000	
b. Glass Skylights	90,000	
c. Loggia off Library-Lounge	10,000	
d. Repair Cast Stonework	23,000	
e. Acoustic Treatment Room 134	2,500	
f. Recreation and Social Activities Rooms	283,800	
g. Acoustical Treatment - Museum	14,800	
h. Auditorium Modernization	584,000	
i. Art Museum Redesign and Rehabilitation	<u>1,000,000</u>	\$2,039,100

Section II - Vertical Transportation

a. Rehabilitation-Redesign of Elevators	<u>\$ 132,500</u>	\$ 132,000
---	-------------------	------------

Section III - Mechanical

a. Air Conditioning Art Museum	\$ 282,200	
b. Air Conditioning Auditorium	(incl. above)	
c. Air Conditioning Recreation and Social Rooms	<u>(incl. above)</u>	\$ 282,200

Section IV - Electrical

a. Auditorium - Main Switchboard		
Dimmer Lighting	\$ 105,000	
b. Wiring for Air Conditioning System	<u>10,000</u>	\$ 115,000

Subtotal \$2,568,800

General Contractor's Fee - 10% 256,880

Base Cost \$2,825,680





SAN FRANCISCO'S WAR MEMORIAL CULTURAL CENTER  
PRELIMINARY ESTIMATE OF COST      1 February 1965

A. Rehabilitation and Modernization (continued)

2. Opera House

Section I - Architectural

a.	Copper Roofing Repair	\$	24,000	
b.	Repair Cast Stone Work		36,000	
c.	Plaster		28,000	
d.	Wind Screen		9,000	
e.	Screen between Lobby and Foyer		6,500	
f.	Acoustic Treatment-Refreshment Area		170,000	
g.	Revisions to Concession Areas		35,000	
h.	Restaurant		17,500	
i.	"Green Room"		2,500	
j.	Re-rigging of Fly Gallery		55,000	
k.	Re-curtain stage		105,000	
l.	Cycloramas		99,000	
m.	Stage Traps and Bridges		500,000	
n.	Modification and Replacement of Seating		327,270	
o.	Additional Boxes and Modifications to Grand Tier		250,000	
p.	Upper Balcony Extension		5,000	
q.	Sidewalk and Central Court Settlement		15,000	
r.	Repainting		<u>87,000</u>	
				\$1,528,770

Section II - Vertical Transportation

Rehabilitate Elevators	\$	<u>162,850</u>	
			\$ 162,850

Section III - Mechanical

a.	Rehabilitation of Existing Heating Controls	\$	5,800	
b.	Air Filters in Ventilating System		3,610	
c.	Air Conditioning		1,010,000	
d.	Installation of Showers		<u>11,000</u>	
				\$1,030,410



SAN FRANCISCO'S WAR MEMORIAL CULTURAL CENTER  
PRELIMINARY ESTIMATE OF COST      1 February 1965

A. Rehabilitation and Modernization (continued)

2. Opera House

Section IV - Electrical

a. Stage Lighting and Controls	\$ 700,000	
b. Cyclorama (wiring only)	15,000	
c. Stage Traps and Bridges (wiring only)	30,000	
d. Wiring for Air Conditioning System	40,000	
e. Additional Grand Tier Boxes	6,000	
f. Closed Circuit TV System	30,000	
g. Inter-communication System	20,000	
h. Sound Effects System	75,000	
i. Rewiring Lighting Power Circuits	<u>50,000</u>	
		\$ 916,000
Subtotal		<u>\$3,638,030</u>
General Contractor's Fee - 10%		<u>363,815</u>
Base Cost		\$4,001,845

Rehabilitation and Modernization Estimate

Veterans Building Base Cost		\$2,825,680
Opera House Base Cost		<u>4,001,845</u>
Total Base Cost		\$6,827,525
Construction Contingency for Field Conditions - 5% Fees, etc.		341,375
Department of Public Works	2%	136,550
Bond Costs	1%	68,275
Architects-Engineers	10%	682,750
Contingency Fund for Expected Increase in Construction Costs - 3 yrs. @ 4%	12%	819,300
Contingency Fund for Added Overhead, Supervision, Lost Time Due to Continuous Occupancy of Buildings	15%	<u>1,024,125</u>
Total Cost of Rehabilitation and Modernization		\$9,899,900



SAN FRANCISCO'S WAR MEMORIAL CULTURAL CENTER  
PRELIMINARY ESTIMATE OF COST      1 February 1965

B. New Construction - Musical Arts Building

1. Opera, Symphony, Ballet, Administration,  
Production and Rehearsal Areas and 2200-  
Seat Hall for Public Performances of  
Ballet, Incidental Concerts and Recitals.

Section I - Architectural	\$4,117,550	
Section II - Vertical Transportation	256,800	
Section III - Mechanical	455,150	
Section IV - Electrical	1,225,800	
Section V - Special Equipment	<u>238,000</u>	
		\$6,293,300

2. 700-Car Garage      4,318,150

3. Franklin Street Underpass      1,068,200

Subtotal      \$11,679,650

General Contractor's Fee - 10%      1,167,970

Base Cost      \$12,847,620

Construction-Contingency for Field Conditions-5%,  
Fees, etc.      642,380

Department of Public Works      2%      256,950

Bond Costs      1%      128,480

Architects-Engineers      8%      1,027,800

Contingency for Expected Increase in  
Construction Costs, 3 yrs. @ 4%      12%      1,541,720

Total of New Construction      \$16,444,950

Total Construction      \$26,344,850

C. Land      2,625,000

Total Estimated Project Cost      \$28,969,850

Estimated Bond Issue Required      \$29,000,000





SAN FRANCISCO'S WAR MEMORIAL CULTURAL CENTER  
PRELIMINARY ESTIMATE OF COST      1 February 1965

Recapitulation of Preliminary Estimate of Cost

A. Rehabilitation and Modernization

1. Veterans Building	\$2,825,680	
2. Opera House	<u>4,001,845</u>	
Base Costs	\$6,827,525	
Contingencies and Fees	<u>3,072,375</u>	
Subtotal		\$9,899,900

B. New Construction - Musical Arts Building

1. Opera, Symphony, Ballet, Administration, Production and Rehearsal Areas and 2200- Seat Hall for Public Performances of Ballet Incidental Concerts, Recitals and Repertory Groups	\$6,922,630	
2. 700-Car Garage	\$4,749,965	
3. Franklin Street Underpass	<u>\$1,175,025</u>	
Base Costs		\$12,847,620
Contingencies and Fees		<u>3,597,330</u>
Subtotal - New Construction		\$16,444,950
Total Construction		\$26,344,850

C. Land (88,300 square feet of private property)	<u>2,625,000</u>	
Total Estimated Project Cost		\$28,969,850
Estimated Bond Issue Required		\$29,000,000

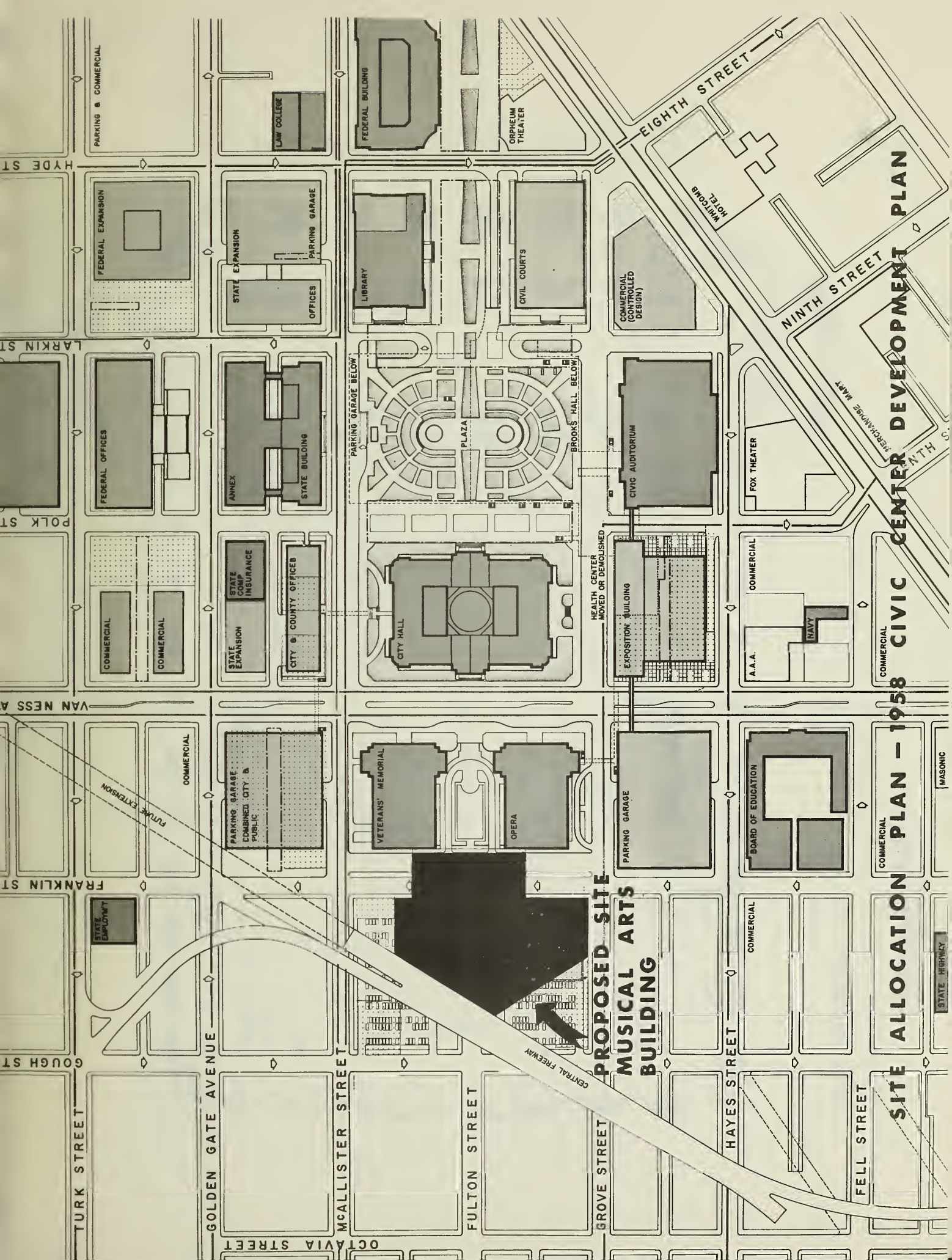


## **XII. PLATES**

**Plate 1.**  
**Plate 2.**  
**Plate 3.**  
**Plate 4.**

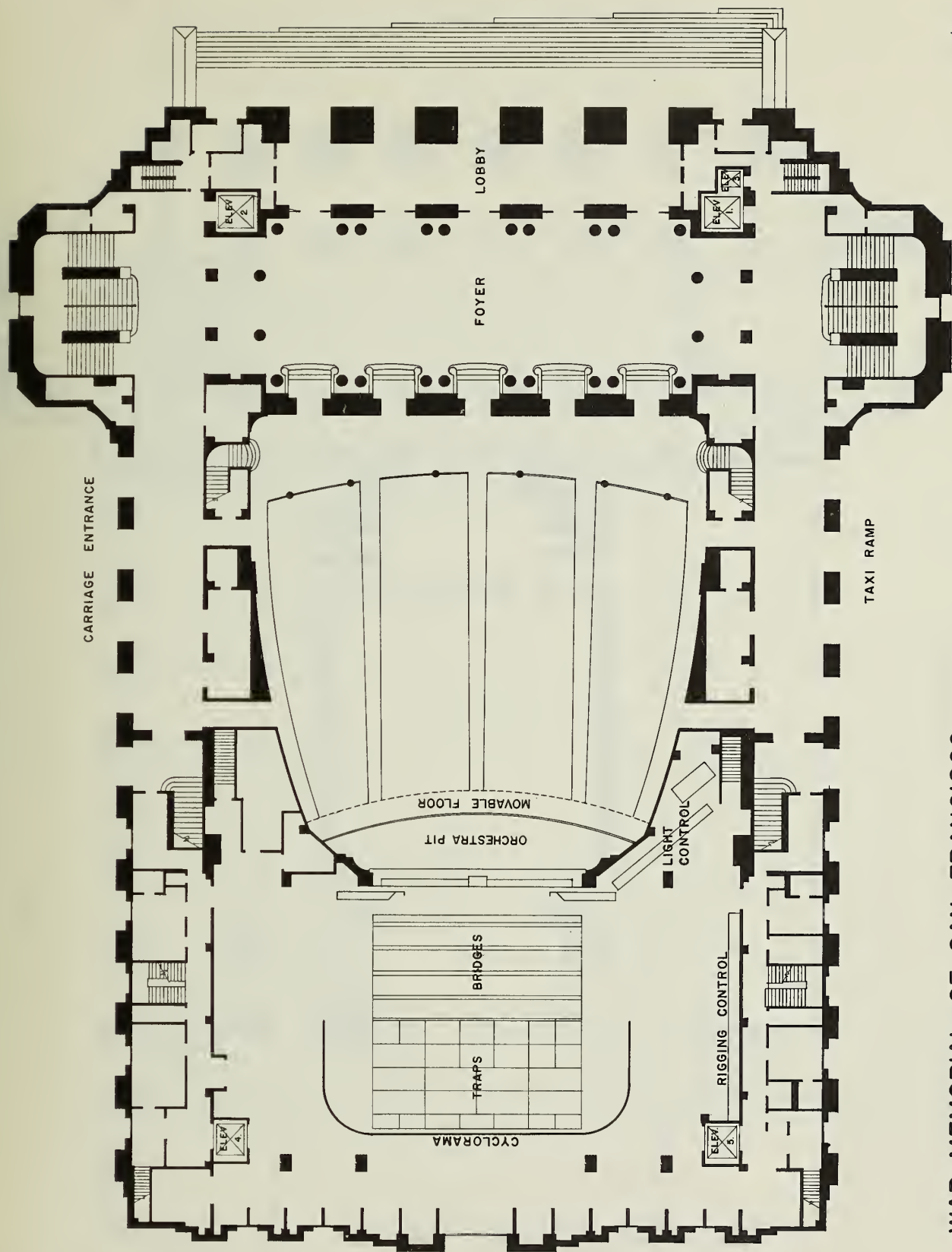


# CENTER DEVELOPMENT PLAN









WAR MEMORIAL OF SAN FRANCISCO  
OPERA HOUSE FIRST FLOOR PLAN

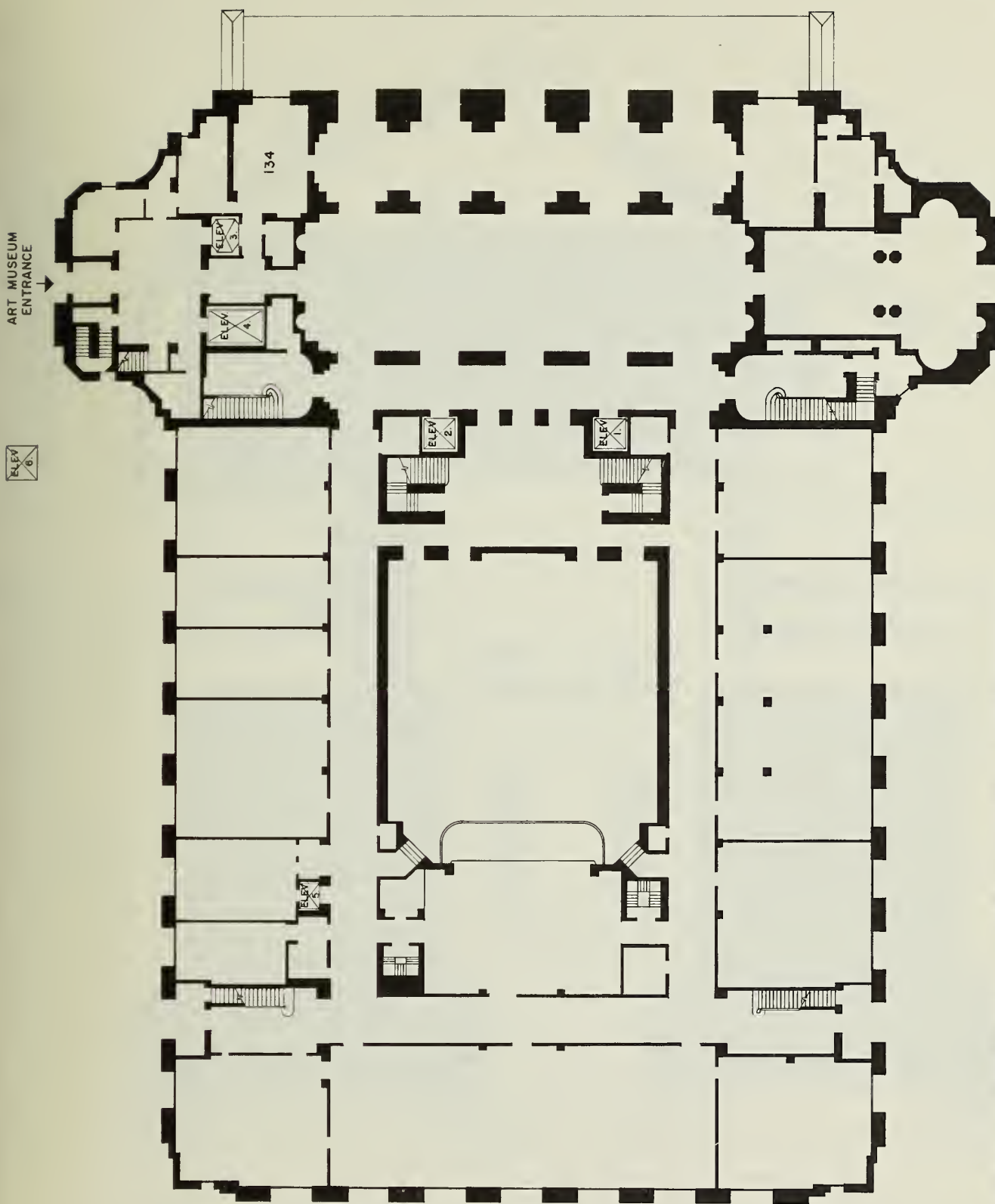




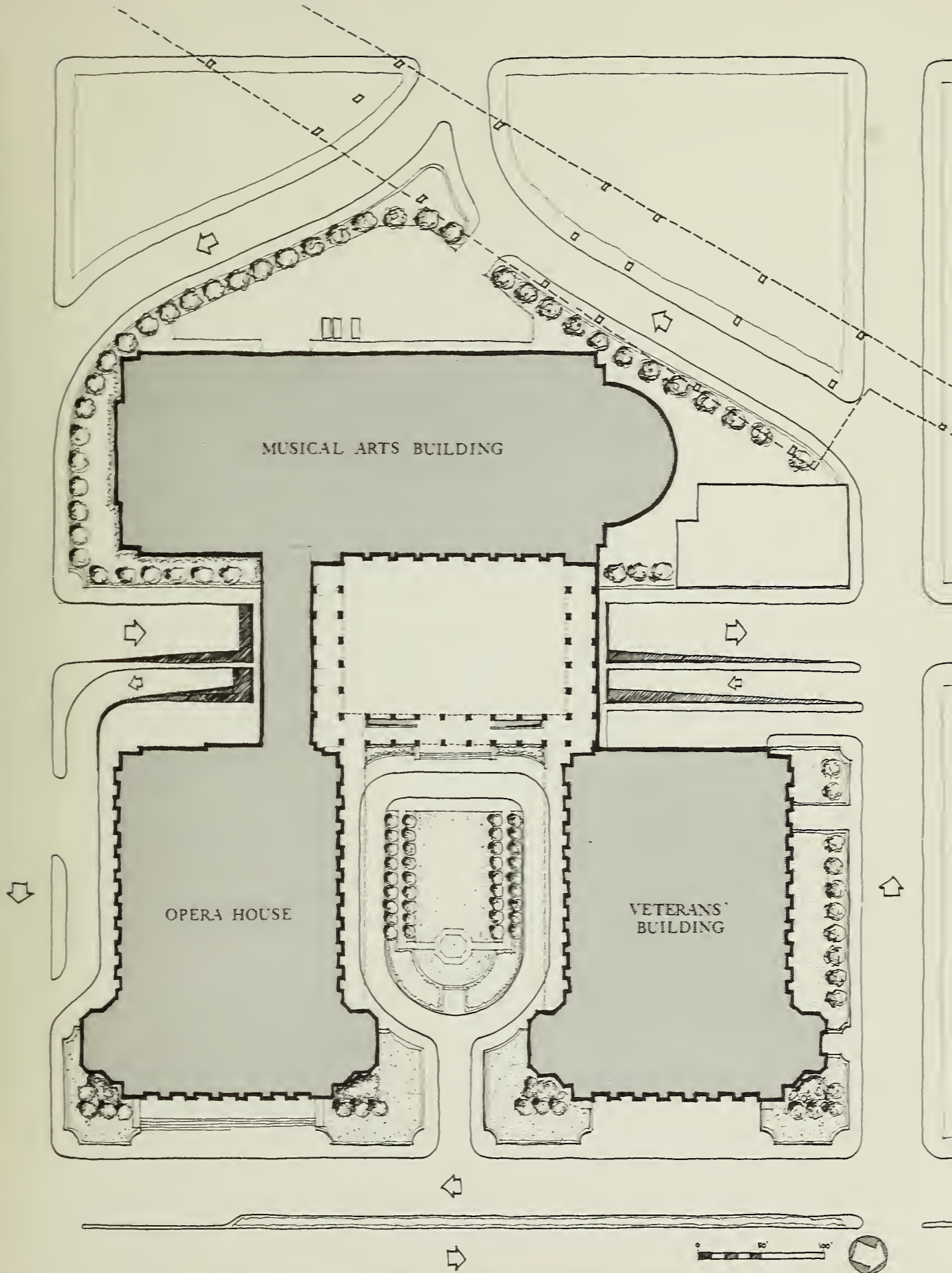
FIRST FLOOR PLAN

# VETERANS BUILDING

SCALE IN FEET







SITE PLAN - WAR MEMORIAL CULTURAL CENTER













